

PROGRESS
OF
MEDICAL SCIENCE

SURGERY

UNDER THE CHARGE OF

T. TURNER THOMAS, M.D.,

ASSOCIATE PROFESSOR OF APPLIED ANATOMY AND ASSOCIATE IN SURGERY IN THE
UNIVERSITY OF PENNSYLVANIA; SURGEON TO THE PHILADELPHIA GENERAL
HOSPITAL AND ASSISTANT SURGEON TO THE UNIVERSITY HOSPITAL.

Transvesical Prostatectomy under Local Anesthesia.—PERRIEN (*Jour. d'Urol.*, 1915, vi, 509) says that local anesthesia saves the strength of the patient, diminishes shock and avoids damage to the kidneys by doing away with inhalation anesthesia. He employed the following method in 5 cases: The abdominal and vesical walls were anesthetized by infiltration with a solution of novocain-adrenalin of 1 to 200 strength, the quantity employed varying according to the obesity of the patient. The perineum is also infiltrated with the same solution in a line in front of the anus between the two tuberosities of the ischia. This will permit the deeper injections without pain. The index finger being introduced into the rectum, a long needle (12 to 15 cm.) is employed to make the injections under the capsule of the prostate. One feels, according to the quantity of fluid injected, the capsule rise and become tense, proving that the injection is being made in the proper space. With the same needle the sacral nerves are injected with a solution of 1 to 100, as indicated by Braun. His method is briefly as follows: With the patient in the tailor position, the needle is introduced parallel to the direction of the lower part of the sacrum, searching with it for the border of the sacrum. Then groping along the internal surface of this bone, parallel to the median line, one strikes the bone. Then along this track, *i. e.*, from about the fifth to the second sacral foramen, one injects about 20 cm. of the 1 per cent. novocain-adrenalin solution. Then the needle is withdrawn to the edge of the sacrum and passed in the direction of the innominate bone, parallel with the median line. In this direction the bone will be struck at a depth of 9 to 10 cm. About 20 cm. of the 1 per cent. solution is then injected. Finally, 5 cm. are injected between the coccyx and rectum from the same point. Braun used this method alone for prostatectomies. It paralyzes the anal sphincter, ureters, prostate, and bladder.

Subastragaloid Arthrodesis in Lateral Deformities of Paralytic Feet.

—WILLARD (*Amer. Jour. Orthop. Surg.*, 1916, xiv, 323) presents the following operation, devised by G. G. Davis, about nine years ago, and performed in 8 cases by Willard. Two incisions are made, one on the inner side of the foot, about a finger's breadth below and in front of the internal malleolus, on the level of the sustentaculum tali; the other on the outer side immediately below the external malleolus. Both incisions are parallel to the long axis of the foot, and are about one inch and a half in length. Through the inner incision the posterior tibial tendon can be exposed and drawn aside and the astragalo-scaploid joint between the astragalus and sustentaculum tali can be reached. With a small curved gouge these joint surfaces, together with the lower surface of the astragalus and the upper surface of the os calcis which lie between them, are roughly dug up. Through the external incision the sheath of the peroneus brevis and tertius can be opened and these tendons drawn aside. The joint between the os calcis and astragalus can now be easily found by pushing the gouge through from the inner incision. The outer portion of the adjoining surfaces of the os calcis and astragalus is thoroughly roughened. The completed operation should give two rough denuded bone surfaces with numerous loose fragments of bone and cartilage lying between them. The upper of the two surfaces is the interior and inferior surfaces of the astragalus; the lower, the posterior surface of the scaphoid and the entire anterior two-thirds of the upper surface of the os calcis. Only the skin wounds are sutured and the foot is fixed in a plaster-of-Paris dressing extending to the knee. Great care must be taken to fix the foot in the proper position (the sole of the foot being at right angles to the line of weight-bearing). Remove the dressing at the end of a week, inspect the wound and replace the foot in plaster in proper position. The patient is allowed to walk in a cast at the end of four weeks and the cast is removed in eight weeks, and, unless the paralysis of the other portions of the leg demand it, no braces are put on. From a study of Willard's and other cases, subastragaloid arthrodesis seems to be the operation of choice in the cases of paralytic feet that show lateral deformity, but in which some muscle power still persists, and in which operations tending to interfere with motion at the ankle are not to be desired. There is no tendency to recurrence of the deformity.

Foreign Bodies in the Respiratory Tract.—GREEN and LEWALD (*Ann. Surg.*, 1916, lxi, 656) say that the most frequent occurrence of foreign bodies in the respiratory tract is in children, 69 per cent. in children up to twelve years of age (Brünings), the greatest frequency being at the age of two years. Some bodies, as a seed or a nut, will hardly be of a sufficient density, to show in a skiagraph. After the x-rays of equal importance, but secondary in sequence from a diagnostic stand-point, comes the direct inspection of the larynx, trachea and bronchi by means of the bronchoscope. Three interesting and successful cases are reported. All recently aspirated foreign bodies should first be sought by the roentgen-rays and the bronchoscope, without delay, and removed if possible through the mouth. Failing to remove them through the mouth a tracheotomy should be done and another attempt made by means of the bronchoscope. Failing in

this the tracheal wound should be held widely open by wires or a large tube in the hope that the foreign body may be coughed out. If immediate removal by these methods fail, a period generally elapses in which the patient may undergo secondary changes in the lung, such as pneumonia, gangrene, abscess, and generally an overlying empyema. If the patients recover from these acute infectious processes, they pass into the class of deferred cases with the foreign body still present as an aggravating factor in their chronic lesion. Removal of the foreign body in these deferred cases does not always effect a cure. The lung abscesses must be treated along surgical lines and even then we cannot always hope for a cure, but rather only an amelioration of their affliction.

The Aperiosteal Stump and its Care.—LYLE (*Ann. Surg.*, 1916, lxiii, 674) says that modern surgical technique now demands that all amputations of the lower extremity yield stumps capable of directly supporting the whole weight of the body. The essential points in the technique consist in removing a small cuff of periosteum (0.5 cm. in depth and leaving no shreds of periosteum) from the bone stump and spooning out the marrow cavity for a like distance, plus the after medicomechanical treatment of the stump. The best-formed stump, if not quickly put to use as a real support, may become atrophied and useless. After the operation the patient is put to bed with the leg elevated. As soon as the wound is healed begin to massage the stump twice daily, and after each treatment rub in a 2 per cent. solution of salicylic acid in olive oil. At night bathe in a warm sodium carbonate solution. Protect the stump with lamb's wool. Place a box at the foot of the bed and have the patient press the stump against it from five to ten minutes three times a day; then four times; finally every hour. After each treatment energetically flex and extend the hip and knee. Now begin standing exercises. Rest the stump on a bran bag or a cane-seated chair, at first placing the weight evenly on both legs; later place all the weight on the stump. At the end of two weeks the patient should be able to wear a peg leg, later a permanent prosthetic appliance which directly receives the weight through the end of the stump. No stump should be considered good unless it is capable of supporting the whole weight of the body. Insist that the permanent artificial leg be built on the end-bearing principle.

High Intestinal Stasis.—SWEET, PEET and HENDRIX (*Ann. Surg.*, 1916, lxiii, 720) working on the lower animals on the problem of the cause of death in either the mechanical or functional, i. e., paralytic, obstructions of the upper bowel, report two findings of surgical interest. First, is the added demonstration of the fact that a gastro-enterostomy opening does not function in the presence of a normal pylorus. The second offers the explanation of the similarity between acute pancreatitis and acute high obstruction; they are alike because they are both essentially the same thing, an intoxication with the toxic products of protein cleavage, in pancreatitis certainly due to the proteolytic ferment of the pancreas, in high obstruction not necessarily, perhaps, but in the writers' opinion in all probability, the same toxin, produced by the same ferment. In pancreatitis the escape of the products of the

digestion of the pancreas into the tissues permits the intoxication; in obstruction the conditions of obstruction permit the absorption of toxic products, which under normal conditions would either not be formed, or if formed would be immediately broken down into non-toxic products.

Postoperative Ileus.—THOMPSON (*Surg., Gynec. and Obst.*, 1916, xxii, 688) says that during the fall and winter of 1914 and 1915 he had operated on 4 cases of obstruction by short-circuiting methods and drainage. Enterostomy was done, and later ileo-ileal anastomosis. The result, recovery. After a series of experiments on dogs he settled upon the following technic for short-circuiting: Make an incision in the abdomen for the short-circuiting above and to the side of the laparotomy incision. Handle the intestine gently and as little as possible. Keep away from the obstructing adhesions. Ileus is caused by the breaking up of adhesions in the presence of pus. Avoid pulling on the mesentery. Make a lateral anastomosis, if possible, between healthy ileum above and ileum just proximal to the ileocecal valve, as this portion is seldom involved in ileus. Do an appendicostomy or cecostomy to allow for drainage and for the introduction of fluids into the system. Thompson believes that the best results are obtained in the treatment of inflammatory ileus by enterostomy and drainage in cases that are so ill that radical measures would be fatal. Enterostomy should be done rapidly and without disturbing the adhesions. When the patient recovers ileo-ileal anastomotic closure of the enterostomy wound and cecostomy or appendicostomy will complete the cure. In favorable cases ileo-ileal anastomosis with cecostomy or appendicostomy for drainage and to relieve the back pressure in the colon, gives the best results. By short-circuiting and putting the damaged gut at rest it may be restored to health and function even after vascular changes have taken place. The mortality of resection for this disease is too high to give it a place in the treatment of inflammatory ileus. The adhesions should not be broken up or the damaged gut handled in the operation.

Some Experiments with Rubber Gloves.—BLACK (*Surg., Gynec. and Obst.*, 1916, xxii, 701) gives the results of experiments with the blind who do all their reading with the fingers, to show the effects of the rubber gloves on the tactile sense. The use of medium-weight rubber gloves requires the blind to use an average of twenty-two seconds more in reading one hundred words of Braille than with the bare fingers, namely, forty-eight seconds with the bare fingers, and seventy seconds with medium-weight gloves. Or, in other words, there is a loss of nearly 50 per cent. in the sense of touch judging from the results of this experiment. The tactile sense is materially improved by putting on wet instead of dry gloves, the difference being an average of five seconds or a little less than 10 per cent. Gloves put on with oil on the hands give a slight improvement over dry gloves, namely, sixty-eight seconds as against seventy seconds. The tactile sense diminishes in direct proportion to the thickness of the gloves as shown in the first series of observations where thin gloves showed an average of seventy-one seconds, thick gloves showed an average of one hundred and six

seconds as against an average of forty-eight seconds with the bare fingers. A marked improvement in the tactile sense is brought about by the use of carefully fitted gloves as shown in the second series where, by care in fitting, the average was reduced from seventy to sixty-six seconds. Gloves put on wet give the most favorable opportunity for exercising the sense of touch and gloves put on dry the least favorable.

THERAPEUTICS

UNDER THE CHARGE OF

SAMUEL W. LAMBERT, M.D.,

PROFESSOR OF CLINICAL MEDICINE IN THE COLLEGE OF PHYSICIANS AND
SURGEONS, COLUMBIA UNIVERSITY, NEW YORK.

On the Toxicity of Various Commercial Preparations of Emetin Hydrochlorid.—LEVY and ROWNTREE (*Arch. Int. Med.*, 1916, xvii, 420) introduce their article by stating that in view of the widespread use of emetin hydrochlorid for the treatment of amebic dysentery and of pyorrhea alveolaris, more precise knowledge of the toxicity of the commercial preparations employed is highly desirable. They describe two cases of poisoning with a fatal result in one of these cases. The fatal result occurred in a man who received, daily, subcutaneous injections of emetin hydrochlorid over a period of twenty days for the treatment of amebic dysentery. The average daily dose was 1.5 grains; the total amount he received was 29 grains. A previously existing diarrhea was at first apparently somewhat ameliorated then markedly intensified. The diarrhea stopped five days after withholding the emetin. On the sixteenth day of treatment the patient complained of nausea and abdominal pain and signs of acute renal insufficiency began to develop. The evidences of kidney involvement increased rapidly, with blood in the urine and diminution in the phenolphthalein output along with an increase in the non-protein nitrogen of the blood. The patient finally developed bronchopneumonia and died with symptoms of vasomotor collapse. The other patient who developed toxic symptoms was an undernourished woman who received four subcutaneous injections of 0.5 grain of the drug at daily intervals for the treatment of pyorrhea alveolaris. An intense diarrhea developed, associated with abdominal pain and tenesmus, which ceased six days after discontinuing the emetin treatment. At the same time she was in a toxic delirious state, which lasted for one week. These symptoms were quite out of proportion to the moderate dosage employed, and the particular preparation was suspected of being unusually toxic. This suspicion was apparently confirmed by the severe toxic symptoms with fatal result that followed the injection of corresponding doses of this same preparation in animals. The authors then proceeded to investigate the toxicity of five commercial preparations of emetin hydrochlorid, in the course of which investiga-